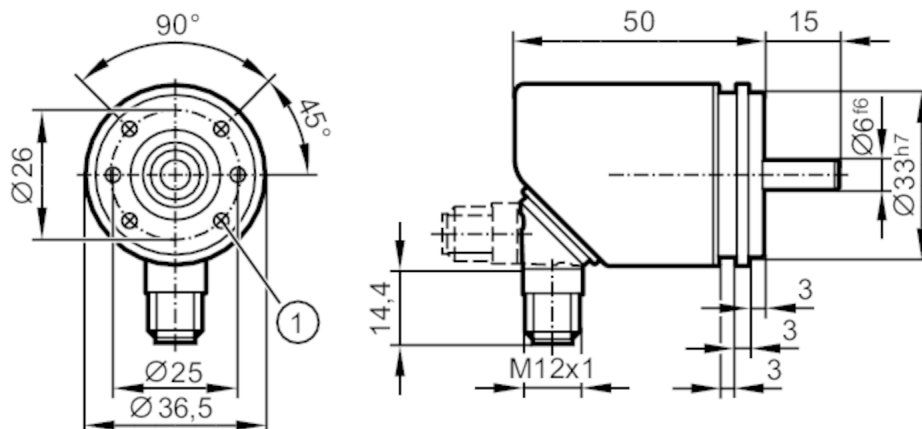


# RMB300



## Absolute multiturn encoder with solid shaft

MULTITURN ENCODER STANDARD LINE



1 M3 x 0.5 Depth 6 mm



### Product characteristics

|                         |                                        |
|-------------------------|----------------------------------------|
| Resolution              | 65536 steps; 32768 revolutions; 31 bit |
| Communication interface | IO-Link                                |
| Shaft design            | solid shaft                            |
| Shaft diameter [mm]     | 6                                      |

### Application

|                    |           |
|--------------------|-----------|
| Function principle | absolute  |
| Revolution type    | multiturn |

### Electrical data

|                                    |                         |
|------------------------------------|-------------------------|
| Operating voltage [V]              | 18...30 DC; (; to PELV) |
| Rated insulation voltage [V]       | 30                      |
| Current consumption [mA]           | < 75                    |
| Protection class                   | III                     |
| Reverse polarity protection        | yes                     |
| Max. power-on delay time [ms]      | 1000                    |
| Max. revolution electrical [U/min] | 12000                   |

### Outputs

|                          |     |
|--------------------------|-----|
| Short-circuit protection | yes |
|--------------------------|-----|

### Measuring/setting range

|            |                                        |
|------------|----------------------------------------|
| Resolution | 65536 steps; 32768 revolutions; 31 bit |
|------------|----------------------------------------|

### Accuracy / deviations

|              |     |
|--------------|-----|
| Accuracy [°] | 0.1 |
|--------------|-----|

### Software / programming

|                           |                                                             |
|---------------------------|-------------------------------------------------------------|
| Parameter setting options | preset; zero point; direction of rotation; rotational speed |
|---------------------------|-------------------------------------------------------------|

### Interfaces

|                         |                    |
|-------------------------|--------------------|
| Communication interface | IO-Link            |
| Transmission type       | COM3 (230,4 kBaud) |
| IO-Link revision        | 1.1                |



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|                                 |                                                                                                   |                                            |
|---------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------|
| SDCI standard                   | IEC 61131-9 CDV                                                                                   |                                            |
| Profiles                        | <b>Function class</b>                                                                             | <b>Designation</b>                         |
|                                 | 0x4000                                                                                            | Identification and Diagnosis               |
|                                 | 0x8001                                                                                            | Switching Signal Channel                   |
|                                 | 0x800B                                                                                            | Measurement Data Channel (high resolution) |
| SIO mode                        | no                                                                                                |                                            |
| Required master port type       | A                                                                                                 |                                            |
| Min. process cycle time [ms]    | 2.3                                                                                               |                                            |
| IO-Link process data (cyclical) | <b>function</b>                                                                                   | <b>bit length</b>                          |
|                                 | process value                                                                                     | 96                                         |
|                                 | device status                                                                                     | 4                                          |
|                                 | binary switching information                                                                      | 5                                          |
| IO-Link functions (acyclical)   | application specific tag; operating hours counter; internal temperature; switching cycles counter |                                            |
| Supported DeviceIDs             | <b>Type of operation</b>                                                                          | <b>DeviceID</b>                            |
|                                 | default                                                                                           | 1064                                       |
| Note                            | For further information please see the IODD PDF file under "Downloads"                            |                                            |

## Operating conditions

|                                |                                                     |
|--------------------------------|-----------------------------------------------------|
| Ambient temperature [°C]       | -40...85                                            |
| Storage temperature [°C]       | -40...85                                            |
| Max. relative air humidity [%] | 98; (condensation not permissible)                  |
| Protection                     | IP 65; (on the housing: IP 67; on the shaft: IP 64) |

## Tests / approvals

|                             |                               |                               |
|-----------------------------|-------------------------------|-------------------------------|
| EMC                         | DIN EN 61000-4-2 ESD          | 4 kV CD                       |
|                             | DIN EN 61000-4-3 HF radiated  | 10 V/m                        |
|                             | DIN EN 61000-4-4 Burst        | 2 kV                          |
|                             | DIN EN 61000-4-6 HF conducted | 10 V                          |
| Vibration resistance        | DIN EN 60068-2-6              | 10 g / 10...1000 Hz half-sine |
| Shock resistance            | DIN EN 60068-2-27             | 100 g 6 ms                    |
| Continuous shock resistance | DIN EN 60068-2-29             | 10 g / 16 ms half-sine        |
| Vibration resistance        |                               | 30 g (10...1000 Hz)           |
| MTTF [years]                | 283                           |                               |
| UL approval                 | power supply                  | Class 2                       |

## Mechanical data

|                                               |                                                            |  |
|-----------------------------------------------|------------------------------------------------------------|--|
| Weight [g]                                    | 227.2                                                      |  |
| Dimensions [mm]                               | Ø 36 / L = 65                                              |  |
| Materials                                     | flange: aluminium; housing: stainless steel (1.4521 / 444) |  |
| Max. starting torque [Nm]                     | 1                                                          |  |
| Reference temperature torque [°C]             | 20                                                         |  |
| Shaft design                                  | solid shaft                                                |  |
| Shaft diameter [mm]                           | 6                                                          |  |
| Shaft material                                | stainless steel                                            |  |
| Max. shaft load axial (at the shaft end) [N]  | 40                                                         |  |
| Max. shaft load radial (at the shaft end) [N] | 110                                                        |  |

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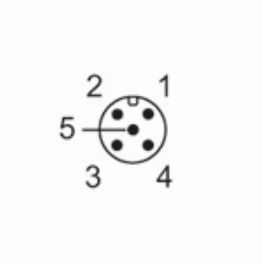
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|               |                       |
|---------------|-----------------------|
| Fixing flange | servo flange; Ø 36 mm |
|---------------|-----------------------|

### Electrical connection - plug

Connector: 1 x M12; coding: A; Moulded body: stainless steel (316 / 1.4401)



|   |             |
|---|-------------|
| 1 | UB          |
| 2 | SSC1.2 / IN |
| 3 | GND         |
| 4 | IO-Link     |
| 5 | n. c.       |